

GVPM Technology Strategy

Chuck Coutteau – Associate Director Ground Vehicle Power & Mobility August 2011

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Selecting the Right Technologies to Meet the Challenges





Vision: GVPM will be the DoD's first choice for ground systems power and mobility solutions

Mission: Research, develop and deliver ground systems power and mobility technology solutions to the current and future force

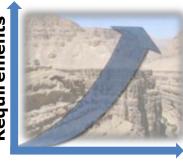
ower Demand Primary



Electrical



/ehicle Agility



Fuel



Increasing demands, operational flexibility, and inter-relationships Requires a Systems Engineering approach and investments in key technology areas



Propulsion & Thermal Management



Non-Prime Power Systems

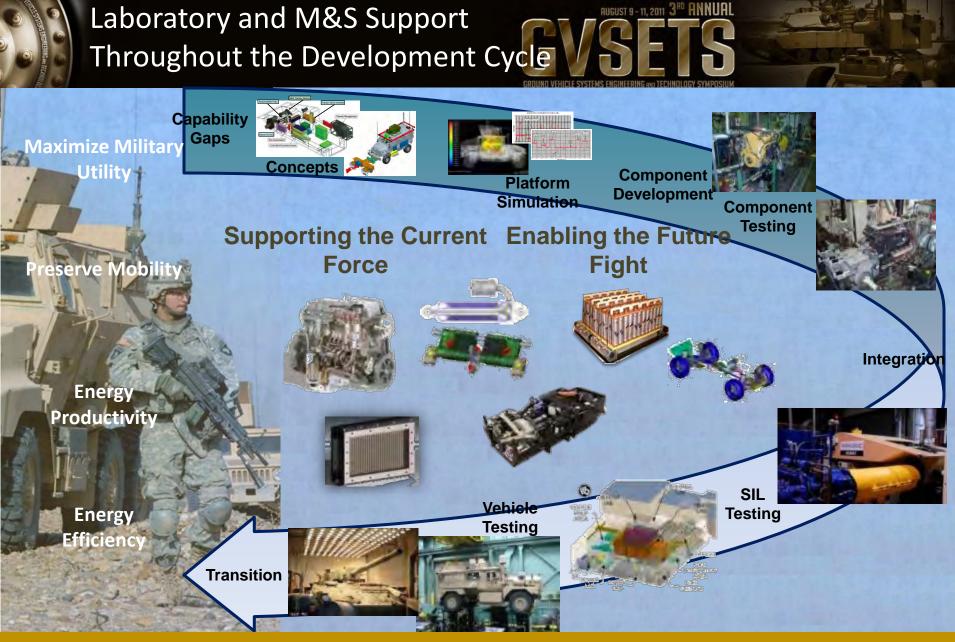


Suspension



Advanced **Propulsion**

Systems Level Analysis, Integration and Testing



Enabling Warfighter Capability Through Technology Development & Integration



Capability Based Technology Strategy

AUGUST 9-11, 2011 3RD ANNUAL STATES



Advanced Radiator Development

Militarization of COTS Engines

Efficient Powertrain Technologies

> Engine Based APU

Transmission

High
Performance
Lightweight
Track

Semi-active Suspension JP-8 Reformation Improvements

System w/JP-8

Integrated Starter Generator

Lithium-Ion Battery Packs

Near Term

Increase Prime
Power

Reduce Fuel Consumption

Increase Vehicle Agility

Control

Increase Electrical Power



GVPM Laboratory Overview



- Engine Dynamometer Test Cells
- Power and Inertia Simulator (PAISI) Test Cell
- Vehicle/transmission/drive axle Evaluation Test Cell
- Single-cylinder Engine Research Test Cell
- Engine Generator Test Lab
- Full Vehicle Environmental Test Cell
- Hybrid Electric Reconfigurable Moveable Integration Testbed (HERMIT)
- Electro-chemical Analysis and Research Lab (EARL)
- Battery Lab
- Air Flow/Cooling Lab
- Elastomer Lab
- Ground Systems Power & Energy Labs (GSPEL)



Airflow/Cooling Lab



Battery Lab



HERMIT



Environmental Test Cell

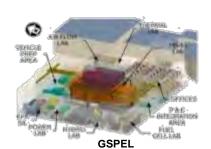




Propulsion Lab



Elastomer Lab





It's all about...Supporting Supporting the Warfighter RUGUST 9-11, 2011 3RD ANNUAL The Warfighter RUGUST 9-11, 2011 3RD ANNUAL EACH OF CHANGLOGY SYMPOSIUM GROUND VEHICLE SYSTEMS ENGINEERING AND TECHNOLOGY SYMPOSIUM



